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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,230	06/16/2003	Paul D. Lusk	960067.ORI	3805
7590	02/02/2004		EXAMINER	
Nikolai Mersereau & Dietz 820 International Centre 900 Second Avenue South Minneapolis, MN 55402-3813			FELTON, AILEEN BAKER	
			ART UNIT	PAPER NUMBER
			3641	

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/673,230	LUSK ET AL.
	Examiner Aileen B Felton	Art Unit 3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 16 June 2003.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
  - a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ .                                   |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 12 and 13 are objected to because of the following informalities:
  - It appears that claim 12 and 13 have been merged together and the "1" is missing before the "3" in claim 13.
  - Also, K<sub>2</sub>SO<sub>4</sub> and KNO<sub>3</sub> should be changed to show the subscripts.
  - Applicant's claims also include acronyms for certain ingredients of the propellant, the claims would be clearer if the actual name was added to the claim, for example in claim 1, DNT can be replaced with dinitrotoluene and in claim 10, DBP can be replaced with dibutyl phthalate. These are exemplary.
  - In claim 17, "plasticiser" should be changed to "plasticizer".

Appropriate correction is required.

### ***Specification***

2. The disclosure is objected to because of the following informalities: On page 6, line 6, "diisoocly" should be changed to "diisoctyl".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Elrick et al(4,029,529).

Elrick et al discloses a single base propellant that comprises 1-98.5 % of nitrocellulose with a plasticizer such as dibutyl adipate (col. 2 and 4). The composition does not include any DNT.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oversohl (3,364,086) in view of Elrick (4,029,529) and further in view of Plunguiian (3,451,883) and Yunan (5,187,320).

Oversohl discloses a single base propellant that comprises 40-99% of nitrocellulose, stabilizers of 1-2 %, a non-explosive plasticizer such as diethyl phthalate of 0-30 %, and ballistic agents such as potassium sulfate of 0-3 % (see table 1).

Elrick teaches that multiple plasticizers for nitrocellulose can be used together such as phthalates and adipates (col. 4, lines 5-16) and also that ethyl centralite is a known stabilizer for nitrocellulose (col. 5, lines 1-3).

Plunguiian and Yunan teach many possible plasticizers for nitrocellulose including diisobutyl adipate and dibutyl phthalate (col. 4, lines 20-42 of Plunguiian) and acetyl triethyl citrate (col. 4, lines 18-30 of Yunan).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the plasticizer taught by Plunguiian and Yunan with the plasticizer disclosed by Oversohl since they will perform in the same manner and also to use multiple plasticizers since Elrick teaches that it is known to use more than one plasticizer with nitrocellulose. It would also be obvious to substitute ethyl centralite for the diphenylamine that is disclosed by Oversohl since Elrick teaches that it is a known stabilizer for nitrocellulose.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aileen Felton whose telephone number is (703) 306-5751. The examiner can normally be reached on Monday through Friday from 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306-4198.

The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687. The fax number for submissions before a final action is (703) 872-9326, for after final submissions is (703) 872-9327, and customer service is (703) 872-9325.

Art Unit: 3641

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

*Aileen B. Felton*

Aileen B. Felton